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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,814	06/18/2001	Jin-Long Chen	18781-001110	5102

20350 7590 11/09/2004

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EXAMINER

CARLSON, KAREN C

ART UNIT

PAPER NUMBER

1653

DATE MAILED: 11/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,814

Applicant(s)

CHEN ET AL.

Examiner

Karen Cochran Carlson, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 1, 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-15 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-15 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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The Office Action is in response to the paper filed October 1, 2004. Claims 1-9 and 16-23 have been canceled. Claims 10-15 and 24-27 are currently pending and are under examination.

Priority is to July 29, 1998.

Maintenance of Objections and Rejections

The disclosure is again objected to because of the following informalities: Cross reference to the parent application must be placed on page 1 of the specification.

Appropriate correction is required.

Applicants have not responded to this objection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-15 and 24-27 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Boss et al. (May 12, 1997; FEBS Lett. 408(1): 39-42) in view of Bathgate et al. (1992; Molecular Microbiology 6(3): 363-370). Boss et al. teach uncoupling protein-3 having the amino acid sequence that is identical to SEQ ID NO: 1 (dependent Claim 26). This protein is encoded by a nucleic acid sequence comprising SEQ ID NO: 2 (dependent Claim 27). The codon at 55Ala is GCC (dependent Claim 24). The codon for 219Thr is ACT (dependent Claim 25).

Boss et al. do not teach operatively linking the nucleic acid sequence encoding uncoupling protein-3 to a promoter, contained in an expression vector, or an expression vector

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having regulatory elements that control the expression of the nucleic acid encoding uncoupling protein-3, placing a the nucleic acid encoding uncoupling protein-3 into a cell, or the cell having regulatory elements that control the expression of the nucleic acid encoding uncoupling protein-3, or using recombinant techniques for the production of uncoupling protein-3.

Bathgate et al. teach cDNA encoding uncoupling protein. This cDNA was inserted into vector pKV49 with the inducible GAL1-10 upstream activation site to produce pKV49-UCP. *S. cerevisiae* was transformed with pKV49-UCP and the expressed uncoupling protein isolated via western blot.

It would have been obvious for a person of ordinary skill in the art to insert the nucleic acid sequence encoding uncoupling protein-3 taught by Boss et al. into the vector pKV49 (Claims 10, 11, 12), transform host cells such as *S. cerevisiae* (Claims 13, 14), and recombinantly produce uncoupling protein-3 (Claim 15) because Bathgate et al. teach the successful expression of the analogous protein uncoupling protein when cDNA encoding uncoupling protein is placed into pKV49 and expressed from *S. cerevisiae*.

Applicants urge that neither Boss et al. or Bathgate et al. would have provided motivation to operably link nucleic acid encoding UCP2 with a promoter or regulatory element, to generate vectors or cells comprising the nucleic acid, and to recombinantly produce the UCP2 protein. Applicants state that the comparison of USCP2 to UCP3 in Boss et al. does not provide motivation to operably link nucleic acid encoding UCP2 with a promoter or regulatory element, to generate vectors or cells comprising the nucleic acid, and to recombinantly produce the UCP2 protein.

Applicants discuss Bathgate et al. and conclude that Bathgate et al. do not provide motivation because finding different UCPs from different species would hardly motivate one to

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operably link nucleic acid encoding UCP2 with a promoter or regulatory element, to generate vectors or cells comprising the nucleic acid, and to recombinantly produce the UCP2 protein.

As noted by Applicant's citation of MPEP 2143.01, there is knowledge generally available to one skilled in the art regarding UCPs. While there may not be a specific suggestion or motivational statement in either Boss et al. or Bathgate et al. to use recombinant techniques to express UCP2, the teachings of Bathgate et al. demonstrate that analogous proteins, that is, from the family of UCPs, can predictably be recombinantly produced. Therefore, one skilled in the art would readily make the nexus between the teachings of Boss et al. and Bathgate et al. to operably link nucleic acid encoding UCP2 with a promoter or regulatory element, to generate vectors or cells comprising the nucleic acid, and to recombinantly produce the UCP2 protein.

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference or that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art (*In re Keller*, 208 USPQ 871, 881).

No Claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen Cochrane Carlson, Ph.D. whose telephone number is 571-272-0946. The examiner can normally be reached on 7:00 AM - 4:00 PM, off alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Karen Cochrane Carlson" followed by a stylized "Ph.D." in a cursive script.

KAREN COCHRANE CARLSON, PH.D
PRIMARY EXAMINER